CISCO SYSTEMS, INC.
Form 424B2
September 14, 2016
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Filed Pursuant to Rule 424(b)(2)
Registration No. 333-194090

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities To Be Registered	Amount to be Registered	Proposed Max Offering Price Per Unit	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee(1)
Floating Rate Notes due September 20, 2019	$ 500,000,000	100.000%	$ 500,000,000	$ 50,350
1.400% Senior Notes due 2019	$1,500,000,000	99.889%	$1,498,335,000	$150,882
1.850% Senior Notes due 2021	$2,000,000,000	99.986%	$1,999,720,000	$201,372
2.200% Senior Notes due 2023	$ 750,000,000	99.794%	$ 748,455,000	$ 75,369
2.500% Senior Notes due 2026	$1,500,000,000	99.912%	$1,498,680,000	$150,917
TOTAL	$6,250,000,000		$6,245,190,000	$628,890

(1) Calculated in accordance with Rule 457(r) of the Securities Act of 1933, as amended.

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Prospectus Supplement

(To Prospectus dated February 24, 2014)

$6,250,000,000

$500,000,000 Floating Rate Notes due September 20, 2019

$1,500,000,000 1.400% Senior Notes due 2019

$2,000,000,000 1.850% Senior Notes due 2021

$750,000,000 2.200% Senior Notes due 2023

$1,500,000,000 2.500% Senior Notes due 2026

We are offering $500,000,000 of our Floating Rate Notes due September 20, 2019 (the floating rate notes), $1,500,000,000 of our 1.400% Senior Notes due 2019 (the 2019 notes), $2,000,000,000 of our 1.850% Senior Notes due 2021 (the 2021 notes), $750,000,000 of our 2.200% Senior Notes due 2023 (the 2023 notes) and $1,500,000,000 of our 2.500% Senior Notes due 2026 (the 2026 notes and, together with the floating rate notes, the 2019 notes, the 2021 notes and the 2023 notes, the notes).

The floating rate notes will bear interest at a floating rate equal to three-month LIBOR plus 0.340%. The 2019 notes will bear interest at a rate of 1.400% per annum, the 2021 notes will bear interest at a rate of 1.850% per annum, the 2023 notes will bear interest at a rate of 2.200% per annum and the 2026 notes will bear interest at a rate of 2.500% per annum. We will pay interest quarterly on the floating rate notes on March 20, June 20, September 20 and December 20 of each year, beginning on December 20, 2016. We will pay interest semiannually on the 2019 notes, the 2021 notes, the 2023 notes and the 2026 notes on March 20 and September 20 of each year, beginning on March 20, 2017. Interest on the notes will accrue from September 20, 2016. The floating rate notes will mature on September 20, 2019, the 2019 notes will mature on September 20, 2019, the 2021 notes will mature on September 20, 2021, the 2023 notes will mature on September 20, 2023 and the 2026 notes will mature on September 20, 2026.

We may redeem some or all of the 2019 notes, the 2021 notes, the 2023 notes and the 2026 notes at any time or from time to time at the applicable redemption prices set forth under the heading Description of Notes Optional Redemption in this prospectus supplement. The floating rate notes will not be redeemable. No sinking fund is provided for the notes.

The notes will be our senior unsecured obligations and will rank equally with our other senior unsecured indebtedness. The notes will not be listed on any securities exchange.

Investing in these securities involves certain risks. See Risk Factors beginning on page S-7 of this prospectus supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the notes or determined that this prospectus supplement or the accompanying prospectus is accurate or complete. Any representation to the contrary is a criminal offense.

	Price to public[(1)]	**Underwriting discounts**	**Proceeds to Cisco Systems, Inc. before expenses[(1)]**
$500,000,000 Floating Rate Notes due September 20, 2019	100.000%	0.100%	99.900%
Total	$ 500,000,000	$ 500,000	$ 499,500,000
$1,500,000,000 1.400% Senior Notes due 2019	99.889%	0.100%	99.789%
Total	$ 1,498,335,000	$ 1,500,000	$ 1,496,835,000
$2,000,000,000 1.850% Senior Notes due 2021	99.986%	0.200%	99.786%
Total	$ 1,999,720,000	$ 4,000,000	$ 1,995,720,000
$750,000,000 2.200% Senior Notes due 2023	99.794%	0.250%	99.544%
Total	$ 748,455,000	$ 1,875,000	$ 746,580,000
$1,500,000,000 2.500% Senior Notes due 2026	99.912%	0.300%	99.612%
Total	$ 1,498,680,000	$ 4,500,000	$ 1,494,180,000

(1) Plus accrued interest, if any, from September 20, 2016.

The underwriters expect to deliver the notes to investors through the book-entry delivery system of The Depository Trust Company for the accounts of its participants, including Clearstream, Luxembourg and the Euroclear System, on or about September 20, 2016, which is the fifth business day following the date of this prospectus supplement. Purchasers of the notes should note that trading of the notes may be affected by this settlement date.

Joint Book-Running Managers

BofA Merrill Lynch **Citigroup** **HSBC** **J.P. Morgan** **Morgan Stanley**

Deutsche Bank Securities **Goldman, Sachs & Co.** **Wells Fargo Securities**

Senior Co-Managers

Barclays **BB&T Capital Markets** **BNP PARIBAS**
Credit Suisse **Lloyds Securities** **RBC Capital Markets**

Co-Manager

Academy Securities

September 13, 2016

We have not, and the underwriters have not, authorized anyone to provide you any information other than that contained or incorporated by reference in this prospectus supplement, the accompanying prospectus or in any free writing prospectus prepared by or on behalf of us or to which we have referred you. Neither we nor the underwriters take any responsibility for, or can provide any assurance as to the reliability of, any other information that others may give you. If information in this prospectus supplement is inconsistent with the accompanying prospectus, you should rely on the prospectus supplement. We are not, and the underwriters are not, making an offer of these securities in any jurisdiction where the offer or sale is not permitted. You should not assume that the information provided in this prospectus supplement, the accompanying prospectus or the documents incorporated by reference in this prospectus supplement or in the accompanying prospectus is accurate as of any date other than their respective dates. Our business, financial condition, results of operations and prospects may have changed since those dates.

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WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public from the SEC s website at http://www.sec.gov. You may also read and copy any document we file at the SEC s public reference room in Washington, D.C. located at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. You may also obtain copies of any document we file at prescribed rates by writing to the Public Reference Section of the SEC at that address. Please call the SEC at 1-800-SEC-0330 for further information on the public reference room. Information about us, including our SEC filings, is also available on our website at http://www.cisco.com; however, the information contained on, or accessible through, our website is not a part of this prospectus supplement or the accompanying prospectus.

INFORMATION INCORPORATED BY REFERENCE

The SEC allows us to incorporate by reference in this prospectus supplement the information in other documents that we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be a part of this prospectus supplement, and information in documents that we file later with the SEC will automatically update and supersede information contained in documents filed earlier with the SEC or contained in this prospectus supplement. We incorporate by reference in this prospectus supplement the documents listed below and any future filings that we may make with the SEC under Sections 13(a), 13(c), 14, or 15(d) of the Securities Exchange Act of 1934, as amended, prior to the termination of the offering under this prospectus supplement:

Annual Report on Form 10-K for the year ended July 30, 2016; and

Current Reports on Form 8-K filed on August 17, 2016 (except for the information furnished pursuant to Item 2.02 of Form 8-K and the furnished exhibit relating to that information), September 6, 2016 and September 13, 2016.

Notwithstanding the foregoing, we are not incorporating any document or information deemed to have been furnished and not filed in accordance with SEC rules. You may obtain a copy of any or all of the documents referred to above which may have been or may be incorporated by reference into this prospectus supplement (excluding certain exhibits to the documents) at no cost to you by writing or telephoning us at the following address:

Cisco Systems, Inc.

170 West Tasman Drive

San Jose, California 95134-1706

Attn: Investor Relations

(408) 227-2726

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SUMMARY

The Company

We design and sell broad lines of products, provide services and deliver integrated solutions to develop and connect networks around the world. For over 30 years, we have helped our customers build networks and automate, orchestrate, integrate, and digitize information technology (IT)-based products and services. In an increasingly connected world, we are helping to transform businesses, governments and cities worldwide. Over time, we have expanded to new markets that are a natural extension of our core networking business, as the network has become the platform for delivering an ever-increasing portfolio of IT-based products and services.

We conduct our business globally, and manage our business by geography. Our business is organized into the following three geographic segments: Americas; Europe, Middle East, and Africa (EMEA); and Asia Pacific, Japan, and China (APJC).

Our products and technologies are grouped into the following categories: Switching; Next-Generation Network (NGN) Routing; Collaboration; Data Center; Wireless; Service Provider Video; Security; and Other Products. In addition to our product offerings, we provide a broad range of service offerings, including technical support services and advanced services. Increasingly, we are delivering our technology and services to our customers as solutions for their priorities including cloud, video, mobility, security, collaboration, and analytics. The network is at the center of these markets and technologies, and we are focused on delivering integrated solutions to help our customers achieve their desired business outcomes. Our customers include businesses of all sizes, public institutions, governments and service providers. These customers look to us as a strategic partner to help them use IT to enable, differentiate or fundamentally define their business strategy and drive growth, improve productivity, reduce costs, mitigate risk, and gain a competitive advantage in an increasingly digital world.

Address and Telephone Number

The mailing address of our principal executive offices is 170 West Tasman Drive, San Jose, California 95134-1706, and our telephone number at that location is (408) 526-4000.

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The Offering

Issuer	Cisco Systems, Inc.
Notes Offered	$500,000,000 aggregate principal amount of the floating rate notes, $1,500,000,000 aggregate principal amount of the 2019 notes, $2,000,000,000 aggregate principal amount of the 2021 notes, $750,000,000 aggregate principal amount of the 2023 notes and $1,500,000,000 aggregate principal amount of the 2026 notes.
Maturity	The floating rate notes mature on September 20, 2019, the 2019 notes mature on September 20, 2019, the 2021 notes mature on September 20, 2021, the 2023 notes mature on September 20, 2023 and the 2026 notes mature on September 20, 2026.
Interest Rates	The floating rate notes will bear interest from September 20, 2016 at a floating rate equal to three-month LIBOR plus 0.340%, payable quarterly, the 2019 notes will bear interest from September 20, 2016 at the rate of 1.400% per annum, payable semiannually, the 2021 notes will bear interest from September 20, 2016 at the rate of 1.850% per annum, payable semiannually, the 2023 notes will bear interest from September 20, 2016 at the rate of 2.200% per annum, payable semiannually and the 2026 notes will bear interest from September 20, 2016 at the rate of 2.500% per annum, payable semiannually.
Interest Payment Dates	March 20, June 20, September 20 and December 20 of each year for the floating rate notes, beginning on December 20, 2016, and March 20 and September 20 of each year for the 2019 notes, the 2021 notes, the 2023 notes and the 2026 notes, beginning on March 20, 2017.
Ranking	The notes are unsecured and will rank equally in right of payment with all of our other existing and future senior unsecured indebtedness.
	The notes will effectively rank junior to all liabilities of our subsidiaries. As of July 30, 2016, our subsidiaries had approximately $5.3 billion of outstanding liabilities, including trade payables but excluding intercompany liabilities and deferred revenue.
Optional Redemption	We may redeem the 2019 notes, the 2021 notes, the 2023 notes and the 2026 notes, in whole or in part, (i) at any time at the applicable make-whole premium redemption price or (ii) at a redemption price equal to 100% of the principal amount of the notes being redeemed, with respect to the 2021 notes, beginning on August 20, 2021 (one month prior to the maturity date of such notes), with respect to the 2023 notes, beginning on July 20, 2023 (two months prior to the maturity date of such notes), and with respect to the 2026 notes, beginning on June 20, 2026 (three months prior to the maturity date of such notes), in each case including accrued interest to but

	excluding the relevant redemption date and as described under the heading Description of Notes Optional Redemption in this prospectus supplement. The floating rate notes will not be redeemable.
Certain Covenants	The indenture governing the notes contains covenants limiting our ability and our wholly-owned subsidiaries ability to: create certain liens and enter into sale and lease-back transactions; and consolidate or merge with, or sell substantially all our assets to, another person. You should read Description of Debt Securities Covenants in the accompanying prospectus for a description of these covenants. Exceptions to these covenants will allow us and our subsidiaries to create, grant or incur liens or security interests with respect to our headquarters and certain material facilities.
Use of Proceeds	We intend to use the net proceeds of this offering for general corporate purposes. See Use of Proceeds.
Risk Factors	See Risk Factors beginning on page S-7 of this prospectus supplement for important information regarding risks related to us and an investment in the notes.
Further Issuances	We may create and issue additional notes of any series ranking equally with the notes of the corresponding series (other than the payment of interest accruing prior to the issue date of such additional notes or except, in some cases, for the first payment of interest following the issue date of such additional notes). Such notes may be consolidated and form a single series with the notes of the corresponding series; *provided* that if such additional notes are not fungible with the notes of the applicable series offered hereby for U.S. federal income tax purposes, such additional notes will have one or more separate CUSIP numbers.
Governing Law	New York law will govern the indenture and the notes.

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Summary Consolidated Financial Data

The following summary consolidated financial data should be read in conjunction with Management s Discussion and Analysis of Financial Condition and Results of Operations and the Consolidated Financial Statements included in our Annual Report on Form 10-K for the year ended July 30, 2016 incorporated by reference in this prospectus supplement and the accompanying prospectus. The summary consolidated financial data for the years ended July 30, 2016, July 25, 2015 and July 26, 2014 are derived from our audited financial statements incorporated by reference in this prospectus supplement and the accompanying prospectus from our Annual Report on Form 10-K for the year ended July 30, 2016.

	Fiscal Year Ended		
	July 30, 2016	July 25, 2015	July 26, 2014
	(in millions, except for per share amounts)		
Consolidated Statements of Operations Data:			
Revenue:			
Product	$ 37,254	$ 37,750	$ 36,172
Service	11,993	11,411	10,970
Total revenue	49,247	49,161	47,142
Cost of sales:			
Product	14,161	15,377	15,641
Service	4,126	4,103	3,732
Total cost of sales	18,287	19,480	19,373
Gross margin	30,960	29,681	27,769
Operating expenses:			
Research and development	6,296	6,207	6,294
Sales and marketing	9,619	9,821	9,503
General and administrative	1,814	2,040	1,934
Amortization of purchased intangible assets	303	359	275
Restructuring and other charges	268	484	418
Total operating expenses	18,300	18,911	18,424
Operating income	12,660	10,770	9,345
Interest income	1,005	769	691
Interest expense	(676)	(566)	(564)
Other income (loss), net	(69)	228	243
Interest and other income (loss), net	260	431	370
Income before provision for income taxes	12,920	11,201	9,715
Provision for income taxes	2,181	2,220	1,862
Net income	$ 10,739	$ 8,981	$ 7,853

Net income per share:

Basic	$ 2.13	$ 1.76	$ 1.50
Diluted	$ 2.11	$ 1.75	$ 1.49
Shares used in per share calculation basic	5,053	5,104	5,234
Shares used in per share calculation diluted	5,088	5,146	5,281
Cash dividends declared per common share	$ 0.94	$ 0.80	$ 0.72

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		July 30, 2016 (in millions, except footnote)
Consolidated Balance Sheet Data:		
Cash and cash equivalents	$	7,631
Investments	$	58,125
Working capital	$	53,808
Total assets	$	121,652
Current liabilities	$	24,911
Long-term obligations	$	33,156
Total equity(1)	$	63,585

(1) Includes noncontrolling interests of $(1) million.

Ratio of Earnings to Fixed Charges

The following table contains our ratio of earnings to fixed charges for the periods indicated.

Fiscal Years Ended				
July 30, 2016	**July 25, 2015**	**July 26, 2014**	**July 27, 2013**	**July 28, 2012**
17x	**17x**	**15x**	**17x**	**15x**

For purposes of determining the ratio of earnings to fixed charges, earnings represent our income before provision for income taxes, plus (i) our share of losses attributable to our equity method investment in VCE Company, LLC (VCE) through October 2014, at which time we ceased to account for the VCE investment under the equity method, and a gain in connection with the VCE reorganization which was completed in the second quarter of fiscal year 2015 and (ii) our fixed charges. Fixed charges represent interest expense plus an estimate of the interest within rental expense.

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RISK FACTORS

Set forth below are risks and uncertainties that could cause our actual results to differ materially from the results contemplated by the forward-looking statements contained in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein.

Risks Related to Our Business

Our operating results may fluctuate in future periods, which may adversely affect our stock price.

Our operating results have been in the past, and will continue to be, subject to quarterly and annual fluctuations as a result of numerous factors, some of which may contribute to more pronounced fluctuations in an uncertain global economic environment. These factors include:

- Fluctuations in demand for our products and services, especially with respect to telecommunications service providers and Internet businesses, in part due to changes in the global economic environment
- Changes in sales and implementation cycles for our products and reduced visibility into our customers spending plans and associated revenue
- Our ability to maintain appropriate inventory levels and purchase commitments
- Price and product competition in the communications and networking industries, which can change rapidly due to technological innovation and different business models from various geographic regions
- The overall movement toward industry consolidation among both our competitors and our customers
- The introduction and market acceptance of new technologies and products and our success in new and evolving markets, including in our newer product categories such as data center and collaboration and in emerging technologies, as well as the adoption of new standards
- New business models for our offerings, such as other-as-a-service (XaaS), where costs are borne up front while revenue is recognized over time
- Variations in sales channels, product costs, mix of products sold, or mix of direct sales and indirect sales
- The timing, size, and mix of orders from customers

Manufacturing and customer lead times

Fluctuations in our gross margins, and the factors that contribute to such fluctuations, as described below

The ability of our customers, channel partners, contract manufacturers and suppliers to obtain financing or to fund capital expenditures, especially during a period of global credit market disruption or in the event of customer, channel partner, contract manufacturer or supplier financial problems

Share-based compensation expense

Actual events, circumstances, outcomes, and amounts differing from judgments, assumptions, and estimates used in determining the values of certain assets (including the amounts of related valuation allowances), liabilities, and other items reflected in our Consolidated Financial Statements

How well we execute on our strategy and operating plans and the impact of changes in our business model that could result in significant restructuring charges

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- Our ability to achieve targeted cost reductions
- Benefits anticipated from our investments in engineering, sales, service, and marketing
- Changes in tax laws or accounting rules, or interpretations thereof

As a consequence, operating results for a particular future period are difficult to predict, and, therefore, prior results are not necessarily indicative of results to be expected in future periods. Any of the foregoing factors, or any other factors discussed elsewhere herein, could have a material adverse effect on our business, results of operations, and financial condition that could adversely affect our stock price.

Our operating results may be adversely affected by unfavorable economic and market conditions and the uncertain geopolitical environment.

Challenging economic conditions worldwide have from time to time contributed, and may continue to contribute, to slowdowns in the communications and networking industries at large, as well as in specific segments and markets in which we operate, resulting in:

- Reduced demand for our products as a result of continued constraints on IT-related capital spending by our customers, particularly service providers, and other customer markets as well
- Increased price competition for our products, not only from our competitors but also as a consequence of customers disposing of unutilized products
- Risk of excess and obsolete inventories
- Risk of supply constraints
- Risk of excess facilities and manufacturing capacity
- Higher overhead costs as a percentage of revenue and higher interest expense

The global macroeconomic environment has been challenging and inconsistent. Instability in the global credit markets, the impact of uncertainty regarding global central bank monetary policy, the instability in the geopolitical environment in many parts of the world including as a result of the recent United Kingdom Brexit referendum to withdraw from the European Union, the current economic challenges in China, including global economic ramifications of Chinese economic difficulties, and other disruptions may continue to put pressure on global economic conditions. If global economic and market conditions, or economic conditions in key markets, remain uncertain or deteriorate further, we may experience material impacts on our business, operating results, and financial condition.

Our operating results in one or more segments may also be affected by uncertain or changing economic conditions particularly germane to that segment or to particular customer markets within that segment. For example, emerging countries in the aggregate experienced a decline in orders during the fourth quarter of fiscal 2016, and also in fiscal 2014 and fiscal 2015.

In addition, reports of certain intelligence gathering methods of the U.S. government could affect customers perception of the products of IT companies which design and manufacture products in the United States. Trust and confidence in us as an IT supplier is critical to the development and growth of our markets. Impairment of that trust, or foreign regulatory actions taken in response to reports of certain intelligence gathering methods of the U.S. government, could affect the demand for our products from customers outside of the United States and could have an adverse effect on our operating results.

We have been investing and expect to continue to invest in key priority and growth areas as well as maintaining leadership in routing, switching and services, and if the return on these investments is lower or develops more slowly than we expect, our operating results may be harmed.

We expect to realign and dedicate resources into key priority and growth areas, such as security, Internet of Things (IoT), collaboration, next generation data center, cloud, and software, while also focusing on

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maintaining leadership in routing, switching and services. However, the return on our investments may be lower, or may develop more slowly, than we expect. If we do not achieve the benefits anticipated from these investments (including if our selection of areas for investment does not play out as we expect), or if the achievement of these benefits is delayed, our operating results may be adversely affected.

Our revenue for a particular period is difficult to predict, and a shortfall in revenue may harm our operating results.

As a result of a variety of factors discussed in our Annual Report on Form 10-K for the year ended July 30, 2016, our revenue for a particular quarter is difficult to predict, especially in light of a challenging and inconsistent global macroeconomic environment and related market uncertainty.

Our revenue may grow at a slower rate than in past periods, or decline as it did in fiscal 2014 on a year-over-year basis. Our ability to meet financial expectations could also be adversely affected if the nonlinear sales pattern seen in some of our past quarters recurs in future periods. We have experienced periods of time during which shipments have exceeded net bookings or manufacturing issues have delayed shipments, leading to nonlinearity in shipping patterns. In addition to making it difficult to predict revenue for a particular period, nonlinearity in shipping can increase costs, because irregular shipment patterns result in periods of underutilized capacity and periods in which overtime expenses may be incurred, as well as in potential additional inventory management-related costs. In addition, to the extent that manufacturing issues and any related component shortages result in delayed shipments in the future, and particularly in periods in which our contract manufacturers are operating at higher levels of capacity, it is possible that revenue for a quarter could be adversely affected if such matters occur and are not remediated within the same quarter.

The timing of large orders can also have a significant effect on our business and operating results from quarter to quarter, primarily in the United States and in emerging countries. From time to time, we receive large orders that have a significant effect on our operating results in the period in which the order is recognized as revenue. The timing of such orders is difficult to predict, and the timing of revenue recognition from such orders may affect period to period changes in revenue. As a result, our operating results could vary materially from quarter to quarter based on the receipt of such orders and their ultimate recognition as revenue.

Inventory management remains an area of focus. We have experienced longer than normal manufacturing lead times in the past which have caused some customers to place the same order multiple times within our various sales channels and to cancel the duplicative orders upon receipt of the product, or to place orders with other vendors with shorter manufacturing lead times. Such multiple ordering (along with other factors) or risk of order cancellation may cause difficulty in predicting our revenue and, as a result, could impair our ability to manage parts inventory effectively. In addition, our efforts to improve manufacturing lead-time performance may result in corresponding reductions in order backlog. A decline in backlog levels could result in more variability and less predictability in our quarter-to-quarter revenue and operating results. In addition, when facing component supply-related challenges, we have increased our efforts in procuring components in order to meet customer expectations which in turn contribute to an increase in purchase commitments. Increases in our purchase commitments to shorten lead times could also lead to excess and obsolete inventory charges if the demand for our products is less than our expectations.

We plan our operating expense levels based primarily on forecasted revenue levels. These expenses and the impact of long-term commitments are relatively fixed in the short term. A shortfall in revenue could lead to operating results being below expectations because we may not be able to quickly reduce these fixed expenses in response to short-term business changes.

Any of the above factors could have a material adverse impact on our operations and financial results.

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We expect gross margin to vary over time, and our level of product gross margin may not be sustainable.

Although our product gross margin increased in fiscal 2016, our level of product gross margins have declined in certain prior periods and could decline in future quarters due to adverse impacts from various factors, including:

- Changes in customer, geographic, or product mix, including mix of configurations within each product group
- Introduction of new products, including products with price-performance advantages, and new business models for our offerings such as XaaS
- Our ability to reduce production costs
- Entry into new markets or growth in lower margin markets, including markets with different pricing and cost structures, through acquisitions or internal development
- Sales discounts
- Increases in material, labor or other manufacturing-related costs, which could be significant especially during periods of supply constraints
- Excess inventory and inventory holding charges
- Obsolescence charges
- Changes in shipment volume
- The timing of revenue recognition and revenue deferrals
- Increased cost, loss of cost savings or dilution of savings due to changes in component pricing or charges incurred due to inventory holding periods if parts ordering does not correctly anticipate product demand or if the financial health of either contract manufacturers or suppliers deteriorates
- Lower than expected benefits from value engineering
- Increased price competition, including competitors from Asia, especially from China
- Changes in distribution channels

- Increased warranty costs
- Increased amortization of purchased intangible assets, especially from acquisitions
- How well we execute on our strategy and operating plans

Changes in service gross margin may result from various factors such as changes in the mix between technical support services and advanced services, as well as the timing of technical support service contract initiations and renewals and the addition of personnel and other resources to support higher levels of service business in future periods.

Sales to the service provider market are especially volatile, and weakness in sales orders from this industry may harm our operating results and financial condition.

Sales to the service provider market have been characterized by large and sporadic purchases, especially relating to our router sales and sales of certain products in our newer product categories such as Data Center, Collaboration, and Service Provider Video, in addition to longer sales cycles. Sales to the service provider market decreased in 2016. At various times in the past including in fiscal 2014 and fiscal 2015, we experienced significant weakness in sales to service providers. Sales to the service provider market could continue to decline and, as has been the case in the past, such sales weakness could persist over extended periods of time given

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fluctuating market conditions. Sales activity in this industry depends upon the stage of completion of expanding network infrastructures; the availability of funding; and the extent to which service providers are affected by regulatory, economic, and business conditions in the country of operations. Weakness in orders from this industry, including as a result of any slowdown in capital expenditures by service providers (which may be more prevalent during a global economic downturn or periods of economic uncertainty), could have a material adverse effect on our business, operating results, and financial condition. Such slowdowns may continue or recur in future periods. Orders from this industry could decline for many reasons other than the competitiveness of our products and services within their respective markets. For example, in the past, many of our service provider customers have been materially and adversely affected by slowdowns in the general economy, by overcapacity, by changes in the service provider market, by regulatory developments, and by constraints on capital availability, resulting in business failures and substantial reductions in spending and expansion plans. These conditions have materially harmed our business and operating results in the past, and some of these or other conditions in the service provider market could affect our business and operating results in any future period. Finally, service provider customers typically have longer implementation cycles; require a broader range of services, including design services; demand that vendors take on a larger share of risks; often require acceptance provisions, which can lead to a delay in revenue recognition; and expect financing from vendors. All these factors can add further risk to business conducted with service providers.

Disruption of or changes in our distribution model could harm our sales and margins.

If we fail to manage distribution of our products and services properly, or if our distributors financial condition or operations weaken, our revenue and gross margins could be adversely affected.

A substantial portion of our products and services is sold through our channel partners, and the remainder is sold through direct sales. Our channel partners include systems integrators, service providers, other resellers, and distributors. Systems integrators and service providers typically sell directly to end users and often provide system installation, technical support, professional services, and other support services in addition to network equipment sales. Systems integrators also typically integrate our products into an overall solution, and a number of service providers are also systems integrators. Distributors stock inventory and typically sell to systems integrators, service providers, and other resellers. We refer to sales through distributors as our two-tier system of sales to the end customer. Revenue from distributors is generally recognized based on a sell-through method using information provided by them. These distributors are generally given business terms that allow them to return a portion of inventory, receive credits for changes in selling prices, and participate in various cooperative marketing programs. If sales through indirect channels increase, this may lead to greater difficulty in forecasting the mix of our products and, to a degree, the timing of orders from our customers.

Historically, we have seen fluctuations in our gross margins based on changes in the balance of our distribution channels. Although variability to date has not been significant, there can be no assurance that changes in the balance of our distribution model in future periods would not have an adverse effect on our gross margins and profitability.

Some factors could result in disruption of or changes in our distribution model, which could harm our sales and margins, including the following:

- We compete with some of our channel partners, including through our direct sales, which may lead these channel partners to use other suppliers that do not directly sell their own products or otherwise compete with them
- Some of our channel partners may demand that we absorb a greater share of the risks that their customers may ask them to bear

Some of our channel partners may have insufficient financial resources and may not be able to withstand changes and challenges in business conditions

Revenue from indirect sales could suffer if our distributors   financial condition or operations weaken

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In addition, we depend on our channel partners globally to comply with applicable regulatory requirements. To the extent that they fail to do so, that could have a material adverse effect on our business, operating results, and financial condition. Further, sales of our products outside of agreed territories can result in disruption to our distribution channels.

The markets in which we compete are intensely competitive, which could adversely affect our achievement of revenue growth.

The markets in which we compete are characterized by rapid change, converging technologies, and a migration to networking and communications solutions that offer relative advantages. These market factors represent a competitive threat to us. We compete with numerous vendors in each product category. The overall number of our competitors providing niche product solutions may increase. Also, the identity and composition of competitors may change as we increase our activity in newer product categories such as data center and collaboration and in key priority and growth areas. For example, as products related to network programmability, such as software-defined-networking products, become more prevalent, we expect to face increased competition from companies that develop networking products based on commoditized hardware, referred to as white box hardware, to the extent customers decide to purchase those product offerings instead of ours. In addition, the growth in demand for technology delivered as a service enables new competitors to enter the market.

As we continue to expand globally, we may see new competition in different geographic regions. In particular, we have experienced price-focused competition from competitors in Asia, especially from China, and we anticipate this will continue. Our competitors include Amazon Web Services LLC; Arista Networks, Inc.; ARRIS Group, Inc.; Avaya Inc.; Blue Jeans Networks, Brocade Communications Systems, Inc.; Check Point Software Technologies Ltd.; Citrix Systems, Inc.; Dell Inc.; Extreme Networks, Inc.; F5 Networks, Inc.; FireEye, Inc.; Fortinet, Inc.; Hewlett-Packard Enterprise Company; Huawei Technologies Co., Ltd.; International Business Machines Corporation; Juniper Networks, Inc.; Lenovo Group Limited; Microsoft Corporation; Nokia Corporation; Palo Alto Networks, Inc.; Polycom, Inc.; Riverbed Technology, Inc.; Symantec Corporation; Ubiquiti Networks and VMware, Inc.; among others.

Some of our competitors compete across many of our product lines, while others are primarily focused in a specific product area. Barriers to entry are relatively low, and new ventures to create products that do or could compete with our products are regularly formed. In addition, some of our competitors may have greater resources, including technical and engineering resources, than we do. As we expand into new markets, we will face competition not only from our existing competitors but also from other competitors, including existing companies with strong technological, marketing, and sales positions in those markets. We also sometimes face competition from resellers and distributors of our products. Companies with which we have strategic alliances in some areas may be competitors in other areas, and in our view this trend may increase.

For example, the enterprise data center is undergoing a fundamental transformation arising from the convergence of technologies, including computing, networking, storage, and software, that previously were segregated. Due to several factors, including the availability of highly scalable and general purpose microprocessors, application-specific integrated circuits (ASICs) offering advanced services, standards based protocols, cloud computing and virtualization, the convergence of technologies within the enterprise data center is spanning multiple, previously independent, technology segments. Also, some of our current and potential competitors for enterprise data center business have made acquisitions, or announced new strategic alliances, designed to position them to provide end-to-end technology solutions for the enterprise data center. As a result of all of these developments, we face greater competition in the development and sale of enterprise data center technologies, including competition from entities that are among our long-term strategic alliance partners. Companies that are strategic alliance partners in some areas of our business may acquire or form alliances with our competitors, thereby reducing their business with us.

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The principal competitive factors in the markets in which we presently compete and may compete in the future include:

- The ability to provide a broad range of networking and communications products and services
- Product performance
- Price
- The ability to introduce new products, including products with price-performance advantages
- The ability to reduce production costs
- The ability to provide value-added features such as security, reliability, and investment protection
- Conformance to standards
- Market presence
- The ability to provide financing
- Disruptive technology shifts and new business models

We also face competition from customers to which we license or supply technology and suppliers from which we transfer technology. The inherent nature of networking requires interoperability. As such, we must cooperate and at the same time compete with many companies. Any inability to effectively manage these complicated relationships with customers, suppliers, and strategic alliance partners could have a material adverse effect on our business, operating results, and financial condition and accordingly affect our chances of success.

Our inventory management relating to our sales to our two-tier distribution channel is complex, and excess inventory may harm our gross margins.

We must manage our inventory relating to sales to our distributors effectively, because inventory held by them could affect our results of operations. Our distributors may increase orders during periods of product shortages, cancel orders if their inventory is too high, or delay orders in anticipation of new products. They also may adjust their orders in response to the supply of our products and the products of our competitors that are available to them, and in response to seasonal fluctuations in end-user demand. Revenue to our distributors generally is recognized based on a sell-through method using information provided by them, and they are generally given business terms that allow them to return a portion of inventory, receive credits for changes in selling price, and participate in various cooperative marketing programs. Inventory management remains an area of focus as we balance the need to maintain strategic inventory levels to ensure competitive lead times against the risk of inventory obsolescence because of rapidly changing technology and customer requirements. When facing component supply-related challenges, we have increased our efforts in procuring components in order to meet customer expectations. If we ultimately determine that we have excess inventory, we may have to reduce our prices and write down inventory, which in turn could result in lower gross margins.

Supply chain issues, including financial problems of contract manufacturers or component suppliers, or a shortage of adequate component supply or manufacturing capacity that increased our costs or caused a delay in our ability to fulfill orders, could have an adverse impact on our business and operating results, and our failure to estimate customer demand properly may result in excess or obsolete component supply, which could adversely affect our gross margins.

The fact that we do not own or operate the bulk of our manufacturing facilities and that we are reliant on our extended supply chain could have an adverse impact on the supply of our products and on our business and operating results:

Any financial problems of either contract manufacturers or component suppliers could either limit supply or increase costs

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Reservation of manufacturing capacity at our contract manufacturers by other companies, inside or outside of our industry, could either limit supply or increase costs

Industry consolidation occurring within one or more component supplier markets, such as the semiconductor market, could either limit supply or increase costs

A reduction or interruption in supply; a significant increase in the price of one or more components; a failure to adequately authorize procurement of inventory by our contract manufacturers; a failure to appropriately cancel, reschedule, or adjust our requirements based on our business needs; or a decrease in demand for our products could materially adversely affect our business, operating results, and financial condition and could materially damage customer relationships. Furthermore, as a result of binding price or purchase commitments with suppliers, we may be obligated to purchase components at prices that are higher than those available in the current market. In the event that we become committed to purchase components at prices in excess of the current market price when the components are actually used, our gross margins could decrease. We have experienced longer than normal lead times in the past. Although we have generally secured additional supply or taken other mitigation actions when significant disruptions have occurred, if similar situations occur in the future, they could have a material adverse effect on our business, results of operations, and financial condition. See the risk factor above entitled Our revenue for a particular period is difficult to predict, and a shortfall in revenue may harm our operating results.

Our growth and ability to meet customer demands depend in part on our ability to obtain timely deliveries of parts from our suppliers and contract manufacturers. We have experienced component shortages in the past, including shortages caused by manufacturing process issues, that have affected our operations. We may in the future experience a shortage of certain component parts as a result of our own manufacturing issues, manufacturing issues at our suppliers or contract manufacturers, capacity problems experienced by our suppliers or contract manufacturers including capacity or cost problems resulting from industry consolidation, or strong demand in the industry for those parts. Growth in the economy is likely to create greater pressures on us and our suppliers to accurately project overall component demand and component demands within specific product categories and to establish optimal component levels and manufacturing capacity, especially for labor-intensive components, components for which we purchase a substantial portion of the supply, or the re-ramping of manufacturing capacity for highly complex products. During periods of shortages or delays the price of components may increase, or the components may not be available at all, and we may also encounter shortages if we do not accurately anticipate our needs. We may not be able to secure enough components at reasonable prices or of acceptable quality to build new products in a timely manner in the quantities or configurations needed. Accordingly, our revenue and gross margins could suffer until other sources can be developed. Our operating results would also be adversely affected if, anticipating greater demand than actually develops, we commit to the purchase of more components than we need, which is more likely to occur in a period of demand uncertainties such as we are currently experiencing. There can be no assurance that we will not encounter these problems in the future. Although in many cases we use standard parts and components for our products, certain components are presently available only from a single source or limited sources, and a global economic downturn and related market uncertainty could negatively impact the availability of components from one or more of these sources, especially during times such as we have recently seen when there are supplier constraints based on labor and other actions taken during economic downturns. We may not be able to diversify sources in a timely manner, which could harm our ability to deliver products to customers and seriously impact present and future sales.

We believe that we may be faced with the following challenges in the future:

New markets in which we participate may grow quickly, which may make it difficult to quickly obtain significant component capacity

As we acquire companies and new technologies, we may be dependent, at least initially, on unfamiliar supply chains or relatively small supply partners

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We face competition for certain components that are supply-constrained, from existing competitors, and companies in other markets

Manufacturing capacity and component supply constraints could continue to be significant issues for us. We purchase components from a variety of suppliers and use several contract manufacturers to provide manufacturing services for our products. During the normal course of business, in order to improve manufacturing lead-time performance and to help ensure adequate component supply, we enter into agreements with contract manufacturers and suppliers that either allow them to procure inventory based upon criteria as defined by us or that establish the parameters defining our requirements. In certain instances, these agreements allow us the option to cancel, reschedule, and adjust our requirements based on our business needs prior to firm orders being placed. When facing component supply-related challenges, we have increased our efforts in procuring components in order to meet customer expectations which in turn contributes to an increase in purchase commitments. Increases in our purchase commitments to shorten lead times could also lead to excess and obsolete inventory charges if the demand for our products is less than our expectations. If we fail to anticipate customer demand properly, an oversupply of parts could result in excess or obsolete components that could adversely affect our gross margins. For additional information regarding our purchase commitments with contract manufacturers and suppliers, see Note 12 to the Consolidated Financial Statements contained in our Annual Report on Form 10-K for the year ended July 30, 2016.

We depend upon the development of new products and enhancements to existing products, and if we fail to predict and respond to emerging technological trends and customers changing needs, our operating results and market share may suffer.

The markets for our products are characterized by rapidly changing technology, evolving industry standards, new product introductions, and evolving methods of building and operating networks. Our operating results depend on our ability to develop and introduce new products into existing and emerging markets and to reduce the production costs of existing products. Many of our strategic initiatives and investments we have made, and our architectural approach, are designed to enable the increased use of the network as the platform for automating, orchestrating, integrating, and delivering an ever-increasing array of IT-based products and services. For example, several years ago we launched our Cisco Unified Computing System (UCS), our next-generation enterprise data center platform architected to unite computing, network, storage access and virtualization resources in a single system, which is designed to address the fundamental transformation occurring in the enterprise data center. While our Cisco UCS offering remains a significant focus area for us, several market transitions are also shaping our strategies and investments.

One such market transition we are focusing on is the move towards more programmable, flexible and virtual networks. We believe the successful products and solutions in this market will combine ASICs, hardware and software elements together. Other examples include our focus on security; the market transition related to digital transformation and IoT; and the transition in cloud.

The process of developing new technology, including technology related to more programmable, flexible and virtual networks and technology related to other market transitions such as security, digital transformation and IoT, and cloud is complex and uncertain, and if we fail to accurately predict customers changing needs and emerging technological trends our business could be harmed. We must commit significant resources, including the investments we have been making in our priorities to developing new products before knowing whether our investments will result in products the market will accept. In particular, if our model of the evolution of networking does not emerge as we believe it will, or if the industry does not evolve as we believe it will, or if our strategy for addressing this evolution is not successful, many of our strategic initiatives and investments may be of no or limited value. For example, if we do not introduce products related to network programmability, such as software-defined-networking products, in a timely fashion, or if product offerings in this market that ultimately succeed are based on technology, or an approach to technology, that differs from ours, such as, for example, networking products based on white box hardware, our business could be harmed.

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Similarly, our business could be harmed if we fail to develop, or fail to develop in a timely fashion, offerings to address other transitions, or if the offerings addressing these other transitions that ultimately succeed are based on technology, or an approach to technology, different from ours.

Our strategy is to lead our customers in their digital transition with solutions including pervasive, industry-leading security that intelligently connect nearly everything that can be connected. Over the last few years, we have been transforming our business to move from selling individual products and services to selling products and services integrated into architectures and solutions. As a part of this transformation, we continue to make changes to how we are organized and how we build and deliver our technology. If our strategy for addressing our customer needs, or the architectures and solutions we develop do not meet those needs, or the changes we are making in how we are organized and how we build and deliver or technology is incorrect or ineffective, our business could be harmed.

Furthermore, we may not execute successfully on our vision or strategy because of challenges with regard to product planning and timing, technical hurdles that we fail to overcome in a timely fashion, or a lack of appropriate resources. This could result in competitors, some of which may also be our strategic alliance partners, providing those solutions before we do and loss of market share, revenue, and earnings. In addition, the growth in demand for technology delivered as a service enables new competitors to enter the market. The success of new products depends on several factors, including proper new product definition, component costs, timely completion and introduction of these products, differentiation of new products from those of our competitors, and market acceptance of these products. There can be no assurance that we will successfully identify new product opportunities, develop and bring new products to market in a timely manner, or achieve market acceptance of our products or that products and technologies developed by others will not render our products or technologies obsolete or noncompetitive. The products and technologies in our other product categories and key growth areas may not prove to have the market success we anticipate, and we may not successfully identify and invest in other emerging or new products.

Changes in industry structure and market conditions could lead to charges related to discontinuances of certain of our products or businesses, asset impairments and workforce reductions or restructurings.

In response to changes in industry and market conditions, we may be required to strategically realign our resources and to consider restructuring, disposing of, or otherwise exiting businesses. Any resource realignment, or decision to limit investment in or dispose of or otherwise exit businesses, may result in the recording of special charges, such as inventory and technology-related write-offs, workforce reduction or restructuring costs, charges relating to consolidation of excess facilities, or claims from third parties who were resellers or users of discontinued products. Our estimates with respect to the useful life or ultimate recoverability of our carrying basis of assets, including purchased intangible assets, could change as a result of such assessments and decisions. Although in certain instances our supply agreements allow us the option to cancel, reschedule, and adjust our requirements based on our business needs prior to firm orders being placed, our loss contingencies may include liabilities for contracts that we cannot cancel with contract manufacturers and suppliers. Further, our estimates relating to the liabilities for excess facilities are affected by changes in real estate market conditions. Additionally, we are required to perform goodwill impairment tests on an annual basis and between annual tests in certain circumstances, and future goodwill impairment tests may result in a charge to earnings.

In August 2016, we announced a restructuring plan under which we began taking action in the first quarter of fiscal 2017. The implementation of this restructuring plan may be disruptive to our business, and following completion of the restructuring plan our business may not be more efficient or effective than prior to implementation of the plan. Our restructuring activities, including any related charges and the impact of the related headcount restructurings, could have a material adverse effect on our business, operating results, and financial condition.

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Over the long term we intend to invest in engineering, sales, service and marketing activities, and these investments may achieve delayed, or lower than expected, benefits which could harm our operating results.

While we intend to focus on managing our costs and expenses, over the long term, we also intend to invest in personnel and other resources related to our engineering, sales, service and marketing functions as we realign and dedicate resources on key priority and growth areas, such as security, IoT, collaboration, next generation data center, cloud, and software, and we also intend to focus on maintaining leadership in routing, switching and services. We are likely to recognize the costs associated with these investments earlier than some of the anticipated benefits, and the return on these investments may be lower, or may develop more slowly, than we expect. If we do not achieve the benefits anticipated from these investments, or if the achievement of these benefits is delayed, our operating results may be adversely affected.

Our business substantially depends upon the continued growth of the Internet and Internet-based systems.

A substantial portion of our business and revenue depends on growth and evolution of the Internet, including the continued development of the Internet and the anticipated market transitions, and on the deployment of our products by customers who depend on such continued growth and evolution. To the extent that an economic slowdown or uncertainty and related reduction in capital spending adversely affect spending on Internet infrastructure, including spending or investment related to anticipated market transitions, we could experience material harm to our business, operating results, and financial condition.

Because of the rapid introduction of new products and changing customer requirements related to matters such as cost-effectiveness and security, we believe that there could be performance problems with Internet communications in the future, which could receive a high degree of publicity and visibility. Because we are a large supplier of networking products, our business, operating results, and financial condition may be materially adversely affected, regardless of whether or not these problems are due to the performance of our own products. Such an event could also result in a material adverse effect on the market price of our common stock independent of direct effects on our business.

We have made and expect to continue to make acquisitions that could disrupt our operations and harm our operating results.

Our growth depends upon market growth, our ability to enhance our existing products, and our ability to introduce new products on a timely basis. We intend to continue to address the need to develop new products and enhance existing products through acquisitions of other companies, product lines, technologies, and personnel. Acquisitions involve numerous risks, including the following:

- Difficulties in integrating the operations, systems, technologies, products, and personnel of the acquired companies, particularly companies with large and widespread operations and/or complex products

- Diversion of management s attention from normal daily operations of the business and the challenges of managing larger and more widespread operations resulting from acquisitions

- Potential difficulties in completing projects associated with in-process research and development intangibles

Difficulties in entering markets in which we have no or limited direct prior experience and where competitors in such markets have stronger market positions

Initial dependence on unfamiliar supply chains or relatively small supply partners

Insufficient revenue to offset increased expenses associated with acquisitions

The potential loss of key employees, customers, distributors, vendors and other business partners of the companies we acquire following and continuing after announcement of acquisition plans

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Acquisitions may also cause us to:

- Issue common stock that would dilute our current shareholders percentage ownership
- Use a substantial portion of our cash resources, or incur debt
- Significantly increase our interest expense, leverage and debt service requirements if we incur additional debt to pay for an acquisition
- Assume liabilities
- Record goodwill and intangible assets that are subject to impairment testing on a regular basis and potential periodic impairment charges
- Incur amortization expenses related to certain intangible assets
- Incur tax expenses related to the effect of acquisitions on our intercompany R&D cost sharing arrangement and legal structure
- Incur large and immediate write-offs and restructuring and other related expenses
- Become subject to intellectual property or other litigation

Mergers and acquisitions of high-technology companies are inherently risky and subject to many factors outside of our control, and no assurance can be given that our previous or future acquisitions will be successful and will not materially adversely affect our business, operating results, or financial condition. Failure to manage and successfully integrate acquisitions could materially harm our business and operating results. Prior acquisitions have resulted in a wide range of outcomes, from successful introduction of new products and technologies to a failure to do so. Even when an acquired company has already developed and marketed products, there can be no assurance that product enhancements will be made in a timely fashion or that pre-acquisition due diligence will have identified all possible issues that might arise with respect to such products.

From time to time, we have made acquisitions that resulted in charges in an individual quarter. These charges may occur in any particular quarter, resulting in variability in our quarterly earnings. In addition, our effective tax rate for future periods is uncertain and could be impacted by mergers and acquisitions. Risks related to new product development also apply to acquisitions. See the risk factors above, including the risk factor entitled We depend upon the development of new products and enhancements to existing products, and if we fail to predict and respond to emerging technological trends and customers changing needs, our operating results and market share may suffer for additional information.

Entrance into new or developing markets exposes us to additional competition and will likely increase demands on our service and support operations.

As we focus on new market opportunities and key priority and growth areas, we will increasingly compete with large telecommunications equipment suppliers as well as startup companies. Several of our competitors may have greater resources, including technical and engineering resources, than we do. Additionally, as customers in these markets complete infrastructure deployments, they may require greater levels of service, support, and financing than we have provided in the past, especially in emerging countries. Demand for these types of service, support, or financing contracts may increase in the future. There can be no assurance that we can provide products, service, support, and financing to effectively compete for these market opportunities.

Further, provision of greater levels of services, support and financing by us may result in a delay in the timing of revenue recognition. In addition, entry into other markets has subjected and will subject us to additional risks, particularly to those markets, including the effects of general market conditions and reduced consumer confidence. For example, as we add direct selling capabilities globally to meet changing customer demands, we will face increased legal and regulatory requirements.

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Industry consolidation may lead to increased competition and may harm our operating results.

There has been a trend toward industry consolidation in our markets for several years. We expect this trend to continue as companies attempt to strengthen or hold their market positions in an evolving industry and as companies are acquired or are unable to continue operations. For example, some of our current and potential competitors for enterprise data center business have made acquisitions, or announced new strategic alliances, designed to position them with the ability to provide end-to-end technology solutions for the enterprise data center. Companies that are strategic alliance partners in some areas of our business may acquire or form alliances with our competitors, thereby reducing their business with us. We believe that industry consolidation may result in stronger competitors that are better able to compete as sole-source vendors for customers. This could lead to more variability in our operating results and could have a material adverse effect on our business, operating results, and financial condition. Furthermore, particularly in the service provider market, rapid consolidation will lead to fewer customers, with the effect that loss of a major customer could have a material impact on results not anticipated in a customer marketplace composed of more numerous participants.

Product quality problems could lead to reduced revenue, gross margins, and net income.

We produce highly complex products that incorporate leading-edge technology, including both hardware and software. Software typically contains bugs that can unexpectedly interfere with expected operations. There can be no assurance that our pre-shipment testing programs will be adequate to detect all defects, either ones in individual products or ones that could affect numerous shipments, which might interfere with customer satisfaction, reduce sales opportunities, or affect gross margins. From time to time, we have had to replace certain components and provide remediation in response to the discovery of defects or bugs in products that we had shipped. There can be no assurance that such remediation, depending on the product involved, would not have a material impact. An inability to cure a product defect could result in the failure of a product line, temporary or permanent withdrawal from a product or market, damage to our reputation, inventory costs, or product reengineering expenses, any of which could have a material impact on our revenue, margins, and net income. For example, in the second quarter of fiscal 2014, we recorded a pre-tax charge of $655 million related to the expected remediation costs for certain products sold in prior fiscal years containing memory components manufactured by a single supplier between 2005 and 2010.

Due to the global nature of our operations, political or economic changes or other factors in a specific country or region could harm our operating results and financial condition.

We conduct significant sales and customer support operations in countries around the world. As such, our growth depends in part on our increasing sales into emerging countries. We also depend on non-U.S. operations of our contract manufacturers, component suppliers and distribution partners. Emerging countries in the aggregate experienced a decline in orders during the fourth quarter of fiscal 2016, and also in fiscal 2014 and fiscal 2015. We continue to assess the sustainability of any improvements in these countries and there can be no assurance that our investments in these countries will be successful. Our future results could be materially adversely affected by a variety of political, economic or other factors relating to our operations inside and outside the United States, including impacts from global central bank monetary policy; issues related to the political relationship between the United States and other countries that can affect the willingness of customers in those countries to purchase products from companies headquartered in the United States; and the challenging and inconsistent global macroeconomic environment, any or all of which could have a material adverse effect on our operating results and financial condition, including, among others, the following:

- Foreign currency exchange rates
- Political or social unrest

Economic instability or weakness or natural disasters in a specific country or region, including the current economic challenges in China and global economic ramifications of Chinese economic

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difficulties; instability as a result of Brexit; environmental and trade protection measures and other legal and regulatory requirements, some of which may affect our ability to import our products, to export our products from, or sell our products in various countries

Political considerations that affect service provider and government spending patterns

Health or similar issues, such as a pandemic or epidemic

Difficulties in staffing and managing international operations

Adverse tax consequences, including imposition of withholding or other taxes on our global operations

We are exposed to the credit risk of some of our customers and to credit exposures in weakened markets, which could result in material losses.

Most of our sales are on an open credit basis, with typical payment terms of 30 days in the United States and, because of local customs or conditions, longer in some markets outside the United States. We monitor individual customer payment capability in granting such open credit arrangements, seek to limit such open credit to amounts we believe the customers can pay, and maintain reserves we believe are adequate to cover exposure for doubtful accounts. Beyond our open credit arrangements, we have also experienced demands for customer financing and facilitation of leasing arrangements. We expect demand for customer financing to continue, and recently we have been experiencing an increase in this demand as the credit markets have been impacted by the challenging and inconsistent global macroeconomic environment, including increased demand from customers in certain emerging countries.

We believe customer financing is a competitive factor in obtaining business, particularly in serving customers involved in significant infrastructure projects. Our loan financing arrangements may include not only financing the acquisition of our products and services but also providing additional funds for other costs associated with network installation and integration of our products and services.

Our exposure to the credit risks relating to our financing activities described above may increase if our customers are adversely affected by a global economic downturn or periods of economic uncertainty. Although we have programs in place that are designed to monitor and mitigate the associated risk, including monitoring of particular risks in certain geographic areas, there can be no assurance that such programs will be effective in reducing our credit risks.

In the past, there have been significant bankruptcies among customers both on open credit and with loan or lease financing arrangements, particularly among Internet businesses and service providers, causing us to incur economic or financial losses. There can be no assurance that additional losses will not be incurred. Although these losses have not been material to date, future losses, if incurred, could harm our business and have a material adverse effect on our operating results and financial condition. A portion of our sales is derived through our distributors. These distributors are generally given business terms that allow them to return a portion of inventory, receive credits for changes in selling prices, and participate in various cooperative marketing programs. We maintain estimated accruals and allowances for such business terms. However, distributors tend to have more limited financial resources than other resellers and end-user customers and therefore represent potential sources of increased credit risk, because they may be more likely to lack the reserve resources to meet payment obligations. Additionally, to the degree that turmoil in the credit markets makes it more difficult for some customers to obtain financing, those customers ability to pay could be adversely impacted, which in turn could have a material adverse impact on our business, operating results, and financial condition.

We are exposed to fluctuations in the market values of our portfolio investments and in interest rates; impairment of our investments could harm our earnings.

We maintain an investment portfolio of various holdings, types, and maturities. These securities are generally classified as available-for-sale and, consequently, are recorded on our Consolidated Balance Sheets at

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fair value with unrealized gains or losses reported as a component of accumulated other comprehensive income (loss), net of tax. Our portfolio includes fixed income securities and equity investments in publicly traded companies, the values of which are subject to market price volatility to the extent unhedged. If such investments suffer market price declines, as we experienced with some of our investments in the past, we may recognize in earnings the decline in the fair value of our investments below their cost basis when the decline is judged to be other than temporary. For information regarding the sensitivity of and risks associated with the market value of portfolio investments and interest rates, refer to the section titled Quantitative and Qualitative Disclosures About Market Risk included in our Annual Report on Form 10-K for the year ended July 30, 2016. Our investments in private companies are subject to risk of loss of investment capital. These investments are inherently risky because the markets for the technologies or products they have under development are typically in the early stages and may never materialize. We could lose our entire investment in these companies.

We are exposed to fluctuations in currency exchange rates that could negatively impact our financial results and cash flows.

Because a significant portion of our business is conducted outside the United States, we face exposure to adverse movements in foreign currency exchange rates. These exposures may change over time as business practices evolve, and they could have a material adverse impact on our financial results and cash flows. Historically, our primary exposures have related to nondollar-denominated sales in Japan, Canada, and Australia and certain nondollar-denominated operating expenses and service cost of sales in Europe, Latin America, and Asia, where we sell primarily in U.S. dollars. Additionally, we have exposures to emerging market currencies, which can have extreme currency volatility. An increase in the value of the dollar could increase the real cost to our customers of our products in those markets outside the United States where we sell in dollars, and a weakened dollar could increase the cost of local operating expenses and procurement of raw materials to the extent that we must purchase components in foreign currencies.

Currently, we enter into foreign exchange forward contracts and options to reduce the short-term impact of foreign currency fluctuations on certain foreign currency receivables, investments, and payables. In addition, we periodically hedge anticipated foreign currency cash flows. Our attempts to hedge against these risks may result in an adverse impact on our net income.

Our proprietary rights may prove difficult to enforce.

We generally rely on patents, copyrights, trademarks, and trade secret laws to establish and maintain proprietary rights in our technology and products. Although we have been issued numerous patents and other patent applications are currently pending, there can be no assurance that any of these patents or other proprietary rights will not be challenged, invalidated, or circumvente